

CLAIMS

What is claimed:

[c01] An article for de-energizing a branch electrical circuit, comprising:

(a) a circuit breaker, which itself comprises:

(i) a breaker switch for electrically activating or de-activating the breaker;

(ii) an input terminal for receiving current into the breaker; and

(iii) an output terminal for directing current out of the breaker;

(b) a plug, capable of insertion into an electrical receptacle in the branch electric circuit; and comprising at least one electrical feed blade and at least one neutral blade;

(c) an electrical lead for connecting the input terminal of the circuit breaker to the electrical feed blade of the plug;

(d) an electrical lead for connecting the output terminal of the circuit breaker to the neutral blade of the plug; and

(e) at least one power-indicating means electrically connected to the plug;

wherein the device is capable of short-circuiting the branch electrical circuit, if the circuit is energized, when the plug is inserted into

the electrical receptacle and the breaker switch is activated, thereby de-energizing the branch circuit.

[c02] The article of claim 1, wherein the power-indicating means is a light device which is activated by an energized condition in the branch circuit.

[c03] The article of claim 2, wherein the light device is an LED device.

[c04] The article of claim 1, wherein the indicating means is an audible device capable of emitting a recognizable sound when activated by an energized condition in the branch circuit.

[c05] The article of claim 4, wherein the audible device is selected from the group consisting of buzzers, whistles, alarms, bells; tone-generating devices, and combinations of any of the foregoing.

[c06] The article of claim 1, wherein the indicating means is an electrical tester capable of measuring at least one electrical property of the branch circuit.

[c07] The article of claim 6, wherein the electrical tester is selected from the group consisting of a voltmeter; an analog multimeter; a digital multimeter, an electrical probe; a neon tester; a receptacle analyzer; a circuit tester, a polarity tester, and combinations thereof.

[c08] The article of claim 1, wherein the branch electrical circuit is capable of carrying an electrical current load, and the circuit breaker is one which is rated to handle an electrical current value which is greater than the electrical current load carried by the branch electrical circuit.

[c09] The article of claim 8, wherein the circuit breaker is rated to handle an electrical current value of about 25 amps to about 35 amps.

[c10] The article of claim 1, wherein element (a) is a single-pole circuit breaker rated for a branch circuit having a voltage value in the range of about 0.001 volt to about 600 volts.

[c11] The article of claim 1, wherein element (a) is double-pole breaker rated for a branch circuit having a voltage value in the range of about 0.001 volt to about 600 volts.

[c12] The article of claim 11, wherein the double-pole breaker comprises two single-pole breakers electrically connected to each other.

[c13] The article of claim 12, comprising at least two power indicating means, each connected electrically to one of the single-pole breakers.

[c14] The article of claim 1, wherein element (a) is a triple-pole breaker rated for a branch circuit having a voltage value in the range of about 0.001 volt to about 600 volts.

[c15] The article of claim 1, wherein the circuit breaker is substantially enclosed in a housing.

[c16] The article of claim 15, wherein the housing comprises a material which is electrically non-conductive.

[c17] The article of claim 15, wherein the housing comprises a material selected from the group consisting of plastic, rubber, fiberglass-containing resins; composite materials; and combinations thereof.

[c18] The article of claim 15, further comprising a holder attached to a surface of the housing, said holder being capable of retaining at least one adapter.

[c19] The article of claim 18, wherein the holder comprises a recessed area which includes internal threads, and the internal threads match external threads which are located on a surface of the adapter.

[c20] The article of claim 18, wherein the adapter is a screw shell-to-plug adapter.

[c21] The article of claim 18, wherein the holder is molded to the housing.

[c22] An article for de-energizing a branch electrical circuit, comprising a circuit breaker with power input means and power output means, wherein the power input means is connected to an electrical feed blade on a plug, and the power output means is connected to an output blade or neutral blade on the plug, said article further comprising a switch for electrically activating or de-activating the breaker; and at least one power-indicating means electrically connected to the plug,

wherein the device is capable of short-circuiting the branch circuit, if the circuit is energized, when the plug is inserted into an outlet receptacle of the branch circuit and the switch is activated, thereby de-energizing the branch circuit.

[c23] A method for de-energizing an energized branch electrical circuit, comprising the following steps:

(I) inserting an article capable of short-circuiting the branch electrical circuit into an outlet receptacle of the circuit,

wherein the article comprises a switch for activating or de-activating the short-circuit; said switch being set in a position which does not activate the short-circuit prior to insertion of the article into the receptacle; and then

(II) moving the switch to a position which activates the short-circuit,

thereby de-energizing the branch electrical circuit.

[c24] The method of claim 23, wherein the article comprises:

(a) a circuit breaker, which itself comprises :

(i) a breaker switch for electrically activating or de-activating the breaker;

(ii) an input terminal for receiving current into the breaker; and

(iii) an output terminal for directing current out of the breaker;

(b) a plug, capable of insertion into an electrical receptacle in the branch electric circuit; and comprising at least one electrical feed blade and at least one neutral blade;

(c) an electrical lead for connecting the input terminal of the circuit breaker to the electrical feed blade of the plug;

(d) an electrical lead for connecting the output terminal of the circuit breaker to the neutral blade of the plug; and

(e) at least one power-indicating means electrically connected to the plug.

[c25] The method of claim 23, wherein the article is hand-held.

[c26] The method of claim 23, further comprising the step of determining if there is power in the branch electrical circuit prior to step (II), by observing an indication from the power-indicating means.

[c27] The method of claim 26, wherein the power-indicating means is selected from the group consisting of light devices, audible devices, electrical tester devices, and combinations thereof.

[c28] The method of claim 23, wherein the branch electrical circuit is a 120-volt branch circuit or a 250-volt branch circuit.